

WHAT IS CLAIMED IS:

1. A method of manufacturing a thin film magnetic head including: two magnetic layers magnetically coupled to each other having two magnetic poles which face each other with a gap layer in between and are to be faced with a recording medium, a thin film coil provided between the two magnetic layers, and an insulating layer for insulating the thin film coil from the two magnetic layers, while one of the two magnetic layers includes: a first magnetic layer having a portion with a uniform width which defines a track width on the recording medium and a second magnetic layer which partially covers a region where the thin film coil is provided and partially overlaps to be magnetically coupled to the first magnetic layer; wherein the method includes:

a first step of forming a first thin film coil pattern and a first connection pattern in the end of the first thin film coil pattern so that the first thin film coil pattern and the first connection pattern are integrated into one body and constitute part of the thin film coil;

a second step of forming the first magnetic layer and a second connection pattern, so that the first magnetic layer extends from a recording-medium-facing surface to be faced with the recording-medium in a longitudinal direction and that the second connection pattern is located on the first connection pattern and constitutes part of the thin film coil;

a third step of forming an insulating film as part of the insulating layer so as to cover at least the first thin film coil pattern, the first and second connection patterns, and the first magnetic layer;

a fourth step of planarizing a surface of the insulating film by polishing until at least both the first magnetic layer and the second connection pattern are exposed; and

a fifth step of forming a conductive layer pattern so as to be electrically connected to an exposed portion of the second connection pattern.

2. A method of manufacturing a thin film magnetic head according to claim 1, wherein the insulating layer is formed to include:

a first insulating layer defining a forefront end of the insulating layer, the forefront end being located on the recording-medium-facing surface side; and

a second insulating layer filling a space over the first insulating layer to the same level as a top surface of the first magnetic layer.

3. A method of manufacturing a thin film magnetic head according to claim 2, wherein the first magnetic layer is formed after the first thin film coil pattern is covered with the first insulating layer.

4. A method of manufacturing a thin film magnetic head according to claim 2, wherein the first insulating layer is formed of an organic insulating material and the second insulating layer is formed of an inorganic insulating material.

5. A method of manufacturing a thin film magnetic head according to claim 1, wherein the conductive layer pattern is formed of the same material as that of the second magnetic layer through the same step as that of forming the second magnetic layer.

6. A method of manufacturing a thin film magnetic head according to claim 1, wherein the conductive layer pattern is formed as a wiring pattern for providing the first thin film coil pattern with a current.

7. A method of manufacturing a thin film magnetic head according to claim 1, wherein the fifth step includes a step of:

forming a second thin film coil pattern on the planarized surface of the insulating film, the second thin film constituting part of the thin film coil; wherein

the conductive layer pattern is formed, as a third connection pattern, in the end of the second thin film coil pattern at the time of forming the second thin film coil pattern so as to be integrated into one body with the second thin film coil pattern.

8. A method of manufacturing a thin film magnetic head according to claim 7, further including a sixth step of forming a third insulating layer as part of the insulating layer so as to cover the second thin film coil pattern and the conductive layer pattern.

9. A method of manufacturing a thin film magnetic head according to claim 8, wherein the third insulating layer is formed of an organic insulating material.